

# **‘Human Clones Talk About Their Lives’:**

## **Media Representations of Assisted Reproductive and Biogenetic Technologies**

Paper Submitted to

### **Media, Culture & Society**

By

Dr Carolyn Michelle

Department of Societies and Cultures

University of Waikato

Private Bag 3105

Hamilton

New Zealand

Work Ph: +64 07 838 4847

Home Ph: +64 07 853 2963

Fax: +64 07 838 4654

Email: [c.michelle@waikato.ac.nz](mailto:c.michelle@waikato.ac.nz)

Short Title: ‘Human Clones Talk About Their Lives’

## Biographical Note:

Carolyn Michelle convenes Women's and Gender Studies and lectures in the Department of Societies and Cultures at the University of Waikato. Her previous research has been in the areas of television sitcom, modes of audience reception, documentary representations of domestic violence (with C. Kay Weaver), and assisted reproductive technologies.

Email: [c.michelle@waikato.ac.nz](mailto:c.michelle@waikato.ac.nz)

## Key words:

Science journalism; in-vitro fertilisation; cloning; concordance; anecdotal personalisation; technoboosterism

## Acknowledgements:

This project was funded by a grant from the Faculty of Arts and Social Sciences at the University of Waikato, and carried out with the help of two research assistants, Jennifer Germon, and Natalie Cowley.

## **‘Human Clones Talk About Their Lives’<sup>1</sup>: Media Representations of Assisted Reproductive and Biogenetic Technologies**

### **Abstract**

This paper examines New Zealand print media representations of assisted reproductive and related biogenetic technologies, conceptualised as the products of a concordance of interest between media workers and reproductive specialists, biogenetic scientists, and consumers. Such concordance is evident in the predominant use of media frames of anecdotal personalisation and technoboosterism, which typically amplify the voices of proponents of emerging technologies whilst marginalising and delegitimising counterdiscourses. Thus, the perspectives of consumers and ‘expert’ sources are privileged at the expense of a more balanced assessment of the value and social, ethical, legal and health implications of assisted reproductive and related biogenetic technologies. Source dependence also detracts from much-needed recognition of the professional and financial interests at stake in the growing privatisation and commercialisation of these technologies, and in the local context potentially undermines journalistic independence and integrity.

## Introduction

The 1978 birth of the world's first 'test tube'<sup>2</sup> baby sparked extensive public debate about the social and ethical implications of in vitro fertilisation and other human assisted reproductive technologies (ARTs). In New Zealand, some greeted the news with wonder and a burgeoning respect for the doctors performing such generative miracles, while others expressed unease at doctors 'playing God' by created life artificially in a laboratory (NZ Law Reform Division, 1986; Daniels, 1988). Concerns were raised about the possible health risks and unknown effects of IVF (Bunkle, 1988; Coney and Else, 1999), while others highlighted the troubling nature and potential future objectives of biomedical exploration, along with the need for greater regulation of this area (New Zealand Law Reform Division, 1986; Batty, 2002).

Early ambivalence has since evolved into widespread public acceptance of most ARTs, now commonly perceived as routine 'every-day' miracles helping infertile couples attain a longed-for child. In many respects, however, IVF was merely the 'founding episode of the "biology revolution"' (Seguin, 2001: 199), which has renewed public interest and concern (Van Dijck, 1998). Current anxieties centre on techniques that merge reproductive and biogenetic technologies, such as the use of pre-implantation genetic diagnosis (PGD) to produce 'saviour siblings' and 'designer babies', xenotransplantation, human embryo cloning for stem cell research, and the 'spectre' of human reproductive cloning.<sup>3</sup> Disturbed by the implications of these developments and following the lead of the United Kingdom, Australia, and Canada, the New Zealand government recently introduced the Human Assisted Reproductive Technology (HART) Act 2004 banning human cloning for reproductive purposes whilst also outlawing the implantation of human/animal hybrids, the use of PGD for sex selection, and commercial surrogacy.<sup>4</sup>

Largely due to expediency, the HART Act does not address the controversial issue of stem cell research. The scope of this legislation does, however, reflect the increasing intersection between reproductive and biogenetic technologies and related research.

Acknowledging this growing coincidence, the focus of the present study is on New Zealand print media representations of ARTs, related biogenetic technologies, stem cell research, and cloning during the periods 1<sup>st</sup> May 2002 to 1<sup>st</sup> September 2003, and from 1<sup>st</sup> July to 1<sup>st</sup> December 2004. These periods represent two key stages during which the HART Act 2004 was being considered by the Health Select Committee, subjected to intensive scrutiny both by media and a public submission process, and read and debated in Parliament for the third and final time. Hence, this study was conducted within the context of considerable public and political debate over the nature, intent and implications of both the technologies themselves, and the scope of proposed legislation.

### **A Concordance of Interest**

Understanding media representations of these technologies is important, for as Väliverronen (2004: 363) notes, media are a key site for the production and dissemination of cultural images of emerging biogenetic technologies and related research. Media also comprise a major source of information used by individuals, interest groups and decision-makers to construct understandings of the social and policy issues raised by new scientific and medical developments, which are generally outside most people's direct experience (Nelkin, 1987; Conrad, 1997; Petersen, 2001; Nisbet and Lewenstein, 2002). Media thus play a key role in shaping the way such issues come to be 'defined and symbolized' (Nisbet and Lewenstein, 2002: 360), and on that basis, regulated, as media

derived understandings clearly do inform private and political action. As found by Rayna Rapp (1988), women frequently refer to mass media for information about new technologies such as amniocentesis, and incorporate this knowledge into the doctor--patient encounter. Similarly, Sarah Franklin (1990: 201) notes that media representations comprise ‘an important public source of both formal knowledge and commonsense understandings of the experience of infertility and the rapidly expanding field of “test-tube baby” science.... As such, they have considerable influence upon public opinion and parliamentary debate’. In this light, how media frame assisted reproductive and biogenetic technologies clearly assumes wider significance.

In what follows, I consider the respective roles of journalists, reproductive specialists, biogenetic scientists, and consumers in ‘framing’ the content and scope of media representations of the technologies, practices and research now regulated under the HART Act 2004. As discussed by Todd Gitlin (1980: 7), ‘Media frames are persistent patterns of cognition, interpretation, and presentation, of selection, emphasis, and exclusion, by which symbol handlers routinely organize discourse, whether visual or verbal’, which aid readers in understanding the essence of the issue, its context and meaning (Weingart, 1998). As Corner et al. (1990) and Philo (1990, 1993) suggest, news stories may actively ‘frame’ issues in ways that legitimate particular understandings of them, whilst simultaneously excluding or downplaying other possible explanations, thereby narrowing the scope of public debate. Condit (1994) also notes the tendency of media to ‘amplify’ certain voices while silencing others.

Among the voices most often amplified in media coverage of these technologies are those of reproductive specialists, biogenetic scientists, and consumers. Members of these groups are often key sources for health and science reporters, and in many respects, a symbiotic relationship (Karpf, 1988; Weingart, 1998; Michelle, 2006a) or concordance

of interest (Condit, 1994) exists between them. For their part, journalists increasingly rely on the ‘knowledge capital’ and institutional authority of highly qualified specialists and scientists to lend credibility to reports on new developments in emerging fields.

Particularly so in the New Zealand context,<sup>5</sup> journalists often have limited scientific training in areas that are rapidly evolving in extremely complex ways, and so rely on these key sources for ‘clarification’ of the nature and importance of a new development and the issues it raises (Friedman, 1986; Nelkin, 1987; Karpf, 1988; Dunwoody, 1986; Van Dijck, 1995). As noted by Condit (1994), specialists, scientists and researchers also provide reporters with stories about cutting-edge research and emerging technological developments that are inherently newsworthy, thus offering journalists and editors what they need: interesting and topical stories that help sell newspapers and magazines.

In return, journalists offer media-savvy specialists and scientists the opportunity to shape public perceptions of research and development in their respective areas, and to foster public and official enthusiasm for their work, in turn aiding the process of securing funding (Dunwoody, 1986; Nelkin, 1987; Karpf, 1988; Petersen, 2001). As noted by Zehr (1999: 8), science journalism plays an important role for the scientific project by providing scientists with ‘unique opportunities to defend and augment their authoritative position in society’. Increasingly, scientists and (bio)medical organisations seek to influence news media by hiring professional communications managers to handle media interactions, issuing press releases highlighting medical breakthroughs or new services, providing journalists with information packages, establishing websites, and actively lobbying media workers to cover issues in ways that uphold their interests, deflect potential criticism, and help maintain their authority and autonomy (Friedman, 1986; Nelkin, 1987, 2001; Karpf, 1988; Lewenstein, 1995; Van Dijck, 1998; Nerlich et al., 2002; Nisbet and Lewenstein, 2002; Väliverronen, 2004; Michelle, 2006a). Such active

media management is increasingly necessary to allay public anxieties over controversial developments such as genetic modification, stem cell research and human cloning. As Weingart (1998: 871) notes, ‘the stronger the dependence of science on public consent, the more important is attention and consent of the media’ (see also Nelkin, 1996).

Because of this concordance of interest, scientists and specialists have become a powerful interest group that has considerable input into, and thus capacity to manipulate, media representations of new biomedical developments (see Michelle 2006a for further discussion in the local context). While media personnel obviously retain considerable editorial independence, the highly specialised nature of emerging innovations means journalists are increasingly reliant on reiterating the same terms, metaphors, images, rhetorical strategies and frameworks of understanding used by scientists and medical specialists themselves in relating the nature and value of their work (Nelkin, 1987; Petersen, 2001; Van Dijck, 1995; Väliverronen, 2004; Michelle, 2006a). As found by Smart (2003), this ‘source dependence’ often means that those actively involved in developing a biotechnology or related application become key sources of information about its ethical, legal and social implications. In this respect, there is potential for media to serve as a conduit through which scientists, specialists and medico--scientific organisations may attempt to assert the legitimacy of, and win consent to, their shared worldview or ‘regime of truth’ by way of controlling how particular issues and new developments are represented to the general public (see also Corner et al., 1990).<sup>6</sup> As Michel Foucault (1971: 221) suggests, ‘discourse is the power which is to be seized’, and by influencing the way new developments are discursively framed and represented in media, these interest groups may exert considerable power over public and political responses to them. Potentially, they are able to set the agenda for subsequent discussion and debate on their own terms.

A similar concordance of interest also exists between journalists and consumers, with the latter group often providing highly newsworthy stories (Condit, 1994). As noted by Karpf (1988), Petersen (2001), and Conrad (1997), finding the human interest angle behind a complex new medical or scientific development is a common journalistic technique used to create interest and make 'high-tech' procedures and technologies more relevant and personally meaningful to lay audiences. Such stories require less time to research and write, and are often emotionally compelling and highly 'readable', making them attractive to a general audience and in turn boosting sales (Cook, 1998 and Patterson, 2001, as cited in Nisbet et al., 2003). Further, in the New Zealand context, competition for market share is especially fierce (Bell, 1995; Lealand, 2004), and decisions about which 'frame' or angle to adopt are often informed by an underlying economic imperative of attracting and keeping readers, the basis of considerable advertising revenue (Weingart, 1998; Underwood, 2001). Thus, established news values, media frames, and economic imperatives fuel an increasing reliance on 'market-oriented' and 'soft news' stories emphasising emotion, sensation, and drama (Underwood, 2001; Nisbet et al., 2003). In the reproductive realm, fertility service users are the key source of such stories, and have an interest in garnering public and official support for their cause. In New Zealand, consumer groups actively campaign for increased public funding for fertility services and access to techniques and procedures unavailable locally, including PGD. Their willingly shared stories of struggle and loss, grief and hope make excellent copy for journalists eager to meet deadlines and fulfil audience expectations. Hence, the voices of consumers and consumer groups also tend to be well represented.

News coverage of ARTs and related biogenetic developments is thus the co-creation of journalists and their key sources, and this is clearly apparent within the growing body of research in this area (see Nelkin, 1987, 1996, 2001; Karpf, 1988;

Franklin, 1990; Stone, 1991; Einsiedel, 1992; Condit, 1994, 1996; Van Dijck, 1995, 1998; Bauer, 1998; Nelkin and Lindee, 1998; Conrad, 1999; Brienbaum-Carmeli et al., 2000; Huxford, 2000; Petersen, 2001; Priest, 2001; Seguin, 2001; Anderson, 2002; Nerlich et al., 2002; Nisbet and Lewenstein, 2002; Hamilton, 2003; Nisbet et al., 2003; Smart, 2003; Väliverronen, 2004). The general consensus is that since the 1980s, ARTs have been normalised as offering a welcome and relatively routine but still somewhat miraculous solution for desperate infertile couples (reflecting a pervasive consumer discourse), while biogenetic technologies have been heralded as offering virtually unlimited potential to prevent or 'cure' debilitating diseases and alleviate human suffering (reflecting the predominance of science discourse) -- although not without certain dangers. Frames of happiness and hopelessness pervade representations of the former -- again reflecting the perspective of service users -- while latter coverage emphasises frames of unbounded scientific development in the service of humanity, along with economic progress -- clearly reflecting the views of scientists and political advocates.

## **Methodology**

Drawing on this body of work, the following discussion identifies the predominant media frames, narrative emphases and discursive strategies within New Zealand print media coverage of emerging reproductive and biogenetic technologies and their proposed regulation. This investigation focused on the largest circulation newspapers and magazines, including the daily national paper, The New Zealand Herald; national weeklies the Weekend Herald (with inserted Canvas magazine) and Sunday Star Times;

and four regional daily papers: the Otago Daily Times, Christchurch's The Press, the Wellington-based Dominion Post (incorporating The Dominion and Evening Post), and the Hamilton-based Waikato Times. Also included were the following magazines: New Zealand Listener, New Zealand Woman's Weekly, Next magazine, and New Idea, the last three all being high circulation women's magazines.

A search of two electronic databases, Index New Zealand and Newztext Plus, was undertaken to locate relevant articles addressing the issues of (in)fertility, IVF, sperm and egg donation, surrogacy, PGD, human cloning, and stem cell research. This search garnered a total of 170 newspaper and magazine articles. Each article was then subjected to content and narrative analysis to identify which technologies were featured and how extensively, their ascribed applications and implications, and degree of favourable representation, registered on a scale from 1--5. Recurring analogies, myths and metaphors were recorded, as were key themes, predominant narrative modes, the proportion of content comprising personal stories and technological details, the content and nature of any critique, its proportion and placement, and the affiliations of any commentators cited. This data was compiled in Excel spreadsheets and the sample analysed as a whole.

### **Anecdotal Personalisation: The Human Drama Behind The News**

Overwhelmingly predominant in over two thirds of our sample was a media frame that Nisbet et al. (2003: 48) term 'anecdotal personalization', whereby the potential benefits and implications of emerging treatments and technologies are introduced and explored using the personal testimony of individuals as the primary frame of reference. Condit

(1994) describes this process as aestheticization, and suggests that these ‘real life’ stories invite readers to identify with characters and share in their personal struggles and triumphs. As noted by Karpf (1988), Conrad (1997) and Petersen (2001), anecdotal personalisation is used to create interest and make ‘high-tech’ procedures and technologies more relevant and personally meaningful to lay audiences by demonstrating their value for particular individuals. Problematically, however, this personalised focus often occurs at the expense of detailed technical information or contextualisation of the issues raised, with attendant risks of oversimplification and potentially misinforming the public about important details (Nisbet et al., 2003).

In our sample, such personalisation generally took the form of ‘real life’ human interest stories typically featuring women and couples who have used, or been impeded in using, assisted reproductive and related biogenetic technologies to achieve a desired end -- in most cases, a biologically related child, but in some cases a child free from a particular genetic disorder, or simply of the ‘right’ sex. Not surprisingly, anecdotal personalisation is especially pronounced in the magazine stories, but is also strikingly evident within the newspaper reports. In at least two thirds of the articles, personal narratives constitute 50 percent or more of total content. More than a quarter of the articles collected comprise almost entirely of ‘real life’ stories, with little (if any) additional commentary or discussion. In some cases, these stories are presented in a way that effectively endorses a new service, technique, or controversial research project (for example, The New Zealand Herald, 18 May 2002; The Press, 8 May 2003; The New Zealand Herald, 9 August 2004), reflecting the concordance of interest between consumers and specialists and researchers.<sup>7</sup> In others, personal narratives affirm the provisions of the HART Act regarding the recording of information about genetic origins (for instance, New Zealand Woman’s Weekly, 9 June 2003; Canvas, 9--10 October 2004).

The vast majority of stories, however, relate the struggles and triumphs of women and couples undergoing, or thwarted in their desire to undergo, fertility treatment. Significantly, approximately 95 percent of consumers represented are explicitly identified as in a married (heterosexual) relationship. As I discuss elsewhere, while lesbians, single women and gay men are significantly underrepresented in the personal stories related by local news media, the increasing use of ART to create families outside the heterosexual nuclear family norm was certainly subject to intensive discussion and at times scathing critique during the period surveyed (see Michelle, 2006b).

As a key media frame, anecdotal personalisation permits some acknowledgement of the potential reality of using these technologies through the telling of detailed firsthand accounts. IVF, for example, is described by some recipients as a ‘long, uncertain road’ and ‘an exhausting process’ which takes an immense physical and emotional toll (Next, September 2003); others attest to lives that are ‘chronically disrupted’ during the IVF ‘emotional roller-coaster’ (The Press, 8--9 June 2002). As local celebrity businesswoman Suzanne Paul describes it (having spent upwards of \$60,000 on eight failed attempts), IVF is no walk in the park: ‘...I didn’t want to go out, didn’t want to see people.... I didn’t have the energy.... It knocked me about having all the drugs and hormones, made me really ill’ (New Zealand Woman’s Weekly, 15 July 2002). Many interviewees note the considerable financial costs involved – currently between NZ\$7--10,000 per IVF cycle.

However, where such costs and difficulties are acknowledged, they are generally described as well worth it; a message reinforced by the typically positive narrative conclusion and often confirmed visually in photographs of the happy family. Cherry Lucas and husband Roy Henderson, for example, ‘endured’ six years of ‘embarrassments, stresses, frustrations and hurts, along with...the loss of much personal dignity’, but were

finally 'rewarded' with the birth of a smiling baby son (The Press, 8--9 June 2002). Even after spending \$20,000 on twelve attempts at donor insemination, a beaming Victoria Quade is pictured under the extraordinary headline, 'He was worth every dollar I spent' (The Dominion Post, 16 August 2004), literally depicting this single mother as a 'happy customer' and her son as a commodity -- entirely in keeping with the consumer discourse underpinning this particular media frame. Indeed, the crudeness of this 'market transaction' is offset by the focus on personal stories, which invite readers to identify emotionally with those featured and to empathise with their human drama. Effectively, anecdotal personalisation reinforces the naturalness of using DI and IVF as a 'solution' to infertility, irrespective of the financial and emotional costs involved. Any consideration of alternative treatment or parenting options is also neatly sidestepped. As Franklin (1990) notes, happiness is the dominant narrative theme of such stories, rather than the risks, successes, or wider social implications of such technologies. Featured 'characters' are selected (either by journalists, or increasingly, by the public relations advisors of fertility clinics), not because they represent consumers in general, but because they 'fit' with a predetermined news angle. Thus, articles highlighting new techniques, treatments, or research programmes feature those who have been, or might be, aided by them, while articles addressing funding constraints relate the stories of those whose parental aspirations have been thwarted by official tightfistedness.

That anecdotal personalisation now constitutes the dominant media frame in local coverage of fertility issues is evident in the overwhelmingly upbeat coverage of New Zealand's oldest mother, Mrs Lyn Mason, who twice gave birth in her mid 50s using donor eggs (see Waikato Times, 5 July 2003; The Press, 28 August 2004; The New Zealand Herald, 30 August 2004; Waikato Times, 4 October 2004). Such positive coverage, which included multiple front page features, editorials and numerous other

articles, represents a dramatic divergence from the more typical representation of older pregnant women as ‘rupturing feminine and maternal norms’ (Betterton, 2002: 256) and as ‘selfish or abnormal -- unless they are celebrity mums’ (Ibid: 260). Certainly, coverage of similar overseas cases has been far more critical, and it seems that the decision of the Masons to ‘tell their story’ largely determined the tone of subsequent media discussion, which effectively cast the Masons as central protagonists in a heroic narrative of tragedy and loss, followed by triumph; or as one editor put it, ‘A love story for our times’ (Waikato Times, 5 July 2003). Key details of their experience are compulsively reiterated in several articles -- including their early struggle to overcome infertility, only to meet with disaster 11 years later when their only daughter Kylie died in a car accident that also killed Lyn’s mother, and their eventual happiness at making their family complete once more. Clearly, this kind of ‘feel-good’ human interest story was regarded as highly newsworthy, resulting in significant media coverage.

Problematically, however, by retelling the Mason story almost purely in personalised terms, any meaningful consideration of the broader health, social and ethical issues raised by such cases (given low success rates, high risk of medical complications, and the long-term implications for the children of older parents) is effectively ‘squeezed out’ of media discussion, and in some cases explicitly countered via reference to disconfirming evidence drawn exclusively from the personal story featured. Indeed, any such objections are characterised by one editor as bordering on ‘prejudice and hysteria’ (Waikato Times, 5 October 2004). Extensive personalisation thus facilitates a broader process of discursive normalisation by affirming the legitimacy of this ‘special case’ as ‘utterly normal’ (Ibid.), while simultaneously policing the boundaries of ‘legitimate’ older motherhood. Thus, what is considered a ‘normal’ use of ART and related technology depends entirely on what is considered acceptable in terms of ‘shared’ social

norms and values. Having a child at 55 is only normal if it occurs under the 'right circumstances' -- those of tragedy, loss, and utter blamelessness (Ibid.). Presumably, media coverage would have been less favourable had the Mason's situation been due to Lyn's 'selfish' desire to delay motherhood while pursuing a career, for instance. Fortunately, the extent of the Mason's victimisation and blamelessness virtually guarantees them public and media sympathy. This very limited framework of acceptability will do little to comfort other older mothers, however, since most lack the Mason's extraordinary extenuating circumstances.

With personalisation firmly established as the dominant media frame, newer and more controversial technologies such as PGD are similarly examined in terms of how they might benefit individuals and couples, as reflected in headlines such as 'No Regrets For Parents Of First Designer Baby' (Sunday Star Times, 15 September 2002). Frequently, anecdotal personalisation prevails to the exclusion of serious consideration of the wider social ramifications. Thus, stories such as 'Kiwis Select Sex Of Babies In Oz' (The Dominion Post, 14 September 2002) and 'NSW Clinic Offers "Right" Sex Baby' (The New Zealand Herald, 14 September 2002) highlight the experiences of New Zealanders 'forced' to go to Sydney to choose the sex of their child, while sidestepping any serious consideration of wider debates around sex selection. Several other stories feature couples with two or more children of the same sex who really want a change, and in all but one of these cases, a girl child is explicitly desired (see for example New Zealand Woman's Weekly, 26 August 2002; Sunday Star Times, 1 December 2002a), thus implicitly countering public and political anxieties that the use of this technology might skew the general population in favour of boys.

Remarkably, one local specialist appears to have played a key role in promoting the personalisation of this issue. Dr Richard Fisher, founding director of New Zealand's

largest private fertility service provider, Fertility Associates, is frequently cited on a range of reproductive issues, and clearly comprises a key source of expert commentary for journalists. Judging by the following comments, both Fisher and journalists are well aware of his capacity to shape public understandings of reproductive and related genetic technologies by actively ‘mediating’ their public representation:

[I’ve] grown into this area, so I’ve watched it develop and it’s under my control, in a sense. I have two to three years to think about it before I signal it. You see, what I have done for the last 10 years is...raise it in the media, let everyone get over their knee-jerk reactions. You get an opportunity to personalise it... Most people say, “Oh yuck, that’s not in the context of how I see the world” [referring to the use of pre-implantation genetic diagnosis for sex selection]. Give them three months to think about it and they can usually find someone in their peer group for whom it might have been a good idea. (Dr Richard Fisher, as cited in Weekend Herald, 14--15 August 2004; emphasis added)

Here, Fisher appears to acknowledge exploiting the media’s reliance on anecdotal personalisation by bringing suitable cases to the attention of journalists, with the aim of providing points of identification for readers. What is more remarkable is that at this time, Fertility Associates was awaiting ethical approval to offer sex selection via PGD. Given many of the headlines that appeared during the course of this study, Fisher seems to have been relatively successful in shaping media coverage of the PGD issue -- if less so in influencing legislators. In this instance, the predominant emphasis on highly selective anecdotal personalisation marginalises feminist, ethical and social critiques of sex selection, and frames the parameters of public discussion in terms of the desirability

of PGD for family ‘balancing’ (Sunday Star Times, 1 December 2002b) -- the very grounds on which Fertility Associates sought to offer this service.

Further, while opposition to genetic selection from religious groups and the disabled is acknowledged in several reports (Sunday Star Times, 15 September 2002; The Dominion Post, 25 November 2004; The Press, 24 November 2004), the views of individual consumers and influential commentators are often drawn on to dismiss such concerns as unfounded. British reproductive specialist and international media celebrity Professor Robert Winston, for example, is quoted as strongly refuting the concerns of ‘ethics campaigners’, describing them as ‘purists and scaremongers’:

Winston has no time for talk of designer babies and eugenics. “People...just want babies, and healthy ones if they can. People are not going to go through the anguish of IVF to have a blue-eyed baby.” He should know. Over the course of his 64 years Winston has helped thousands of women have happy, healthy babies. (Christchurch Press, 7 July 2004; emphasis added).

On the issue of using PGD to select sex, Winston is equally adamant:

...society has more to worry about than [couples] using PGD to balance up a family of four boys. “If you choose the sex of your child as a result of IVF, some people throw their hands in the air and say this is a terrible thing to do. But it’s actually not in any way going to change society.” (Ibid.; emphasis added)

Here, the fertility specialist is recast as mind reader, futurist, and social scientist, able to predict future consumer demand and also assess the long-term social

consequences of satisfying that demand. As Nelkin (1987) and Karpf (1988) note, it is relatively common for scientists who have become established media sources to be asked to comment on areas outside their expertise, and many do so. Hence, local expert Dr Richard Fisher is similarly cited adding his dismissive assessment of the proposed ban on sex selection via PGD: ‘If someone finds out that you can use a particular douche that works in the vagina to conceive a boy or girl, how can you ban that?’ (as cited in Sunday Star Times, 1 December 2002b). Of course, as a few local journalists did note, the development of technological means to determine sex in utero via amniocentesis has had a significant and seriously detrimental effect on the sex ratios of two of the world’s most populous and rapidly developing nations: India, where some parents are willing to flout the law to detect and subsequently abort unwanted girl children (Balakrishnan, 1994; Oomman and Ganatra, 2002); and China, where amniocentesis followed by selective abortion has now supplanted the more traditional practice of female infanticide (Hudson and den Boer, 2004). As these examples suggest, individual parental decisions can, collectively, have significant consequences for society as a whole -- a point that is largely discounted in local media reports through heavy reliance on ‘expert’ sources who are proponents of biogenetic technologies: It really doesn’t make a difference to society if parents choose to select for sex, argues Winston, and ‘he should know’. What is particularly extraordinary in local coverage of this issue is the almost complete absence of any political voice explaining the ethical rationale behind the proposed legislative ban on sex selection. Non-medical perspectives are also entirely excluded, giving the distinct impression that on this issue, the only voices that count are those of potential consumers, scientists, and local fertility specialists -- some of whom clearly stand to profit from offering such procedures.

Winston's and Fisher's comments also attest to a strong element of science--media symbiosis in this country; one that appears to enable prominent medical specialists to set the agenda for media representations of emerging biogenetic treatments and technologies in terms of how they might benefit the individual consumer, while neatly obscuring from public attention the other, financial interests that are also at stake in commercial fertility service delivery -- in this case, Fisher's own interests as director and shareholder of Fertility Associates. Even more concerning, however, is the apparent complicity of local journalists in this process. Rather than exploring the wider implications of Fisher's claims regarding his ability to use media to 'signal' and 'personalise' new developments (particularly in light of traditional journalistic values of independence and integrity), the reporter concerned warmly describes the 'very smooth, very serious, seriously empathetic' Fisher as 'very good at massaging...the movement of knowledge through the channels it takes to reach the public' (Weekend Herald, 14--15 August 2004). This suggests a degree of friendly collusion between fertility providers and journalists, with mutual acknowledgment of their shared interest in the reproduction of an established media frame.

Furthermore, anecdotal personalisation, backed up by selected 'expert' sources, highlights the potential benefits of emerging reproductive and biogenetic technologies for individuals and couples at the expense of due consideration of potential risks and broader social, ethical, and regulatory issues and implications, while also diverting attention away from the economic and political contexts within which such technologies are used and promoted (see also Karpf, 1988; Petersen, 2001). Serious examination of these wider issues is effectively 'crowded out' by the focus on 'real life' stories of individuals struggling to overcome loss or deficiency, or to gain access to services currently unavailable. In effect, personalisation sets the agenda for discussion in a way that limits

the kinds of questions that might be asked to just a few: ‘How can a pregnancy be achieved?’ (Franklin, 1990: 207) in the case of IVF and other ARTs, and ‘How can the right kind of baby be produced?’ in the case of PGD. Indeed, some reporters and editors may view these broader issues and implications as less relevant, since much of what is reported is subjective ‘personal experience’, and thus the only relevant issues are those that pertain specifically to featured individuals. In turn, these highly individualised personal narratives and the experiential ‘truths’ they seemingly reveal are presented as though standing in for and encompassing collective human experience. Having universalised the personal experiences of a few in this way, news media implies that the only relevant concern is that of how such technologies might benefit these particular individuals and couples, in some cases scarcely acknowledging other individuals directly affected. In the case of PGD, for example, there are potentially significant social, psychological and health consequences for ‘designer babies’ and ‘saviour siblings’, a point less frequently acknowledged in media coverage.

### *Politicisation and The Campaign For Increased Public Funding*

With this media frame firmly in place, the groundwork is laid for fertility specialists and consumer groups to utilise media to facilitate the politicisation of service provision. Hence, use of ART becomes constructed as the personal choice of individuals and couples for whom genetic parenthood is a right, and for whom assistance is a now considered a legitimate need (Van Dijck, 1995). In a similar way, gaining access to emerging genetic technologies and treatments is framed as highly desirable and an issue of both choice and necessity. Indeed, some journalists appear to view the campaign to

increase public funding for fertility services as a worthy ‘cause’ that may be legitimately advanced, in keeping with the tradition of advocacy journalism. Numerous reports exclusively articulate the perspectives of fertility specialists and their ‘customers’, whose tragic personal circumstances are used to bolster calls for increased public funding, less restrictive eligibility criteria, or the provision of services currently unavailable locally.<sup>8</sup>

The following example is not atypical:

A letter to say they had been bumped off the waiting list for fertility treatment left the Hoogenboezem family with a choice. They had to find \$8,000 to fund another round of fertility treatment that would hopefully result in a sibling for their 15-month-old son, Jacob, or decide to call it quits on adding to the family... They have decided to call it a day... Mrs Hoogenboezem said “It’s shattering — it’s so frustrating. How can they decide how many children we can have? We’re lucky to have had one son. But they are not providing us with a sibling for our son.” (The Press, 24 September 2002)

Such comments suggest fertility treatment is not simply about ‘curing’ a medical problem and addressing a patient ‘need’. Fundamentally, it is about satisfying people’s ‘wants’ and demands as consumers. Here, the initial medical/social ‘problem’ of infertility or childlessness has been addressed, but merely fuels a subsequent demand to be ‘provided’ with at least one other sibling. In the process, assisted reproductive technologies and the children they may produce become (re)constructed as commodities that can be offered or withheld. As noted by Van Dijck, local journalism has become ‘deployed by special interest groups to commodify and market IVF and related technologies, while simultaneously expanding and emphasizing the need for them by

pointing to the large number of infertile couples desperately waiting for treatment' (Van Dijck, 1995: 76). Increasingly, consumer groups also draw on and incorporate elements of human rights discourse to bolster claims to their 'fair share' of public health funds, in some cases drawing on the principle underpinning the state's financial support of women's right not to bear children (through funding abortion) to strengthen assertions that the failure to empower those who do want children constitutes discrimination (The Dominion Post, 13 June 2002). Even Robert Winston weighs into the local political debate. Invited to New Zealand in July 2004 to speak to government officials and MPs, Winston argues that the state has a duty to provide the infertile with publicly funded treatment 'because [infertility] causes them as much pain -- if not more -- as having an arthritic knee' (The Dominion Post, 8 July 2004).

Without discounting the distress felt by many childless individuals, one potential consequence of this politicisation of service provision is that it distorts the reality of fertility treatment by implying that the primary barrier to success is financial rather than medical, biological or technological, and thus that continued childlessness is due to constraints on public or private funding, rather than a failure of the technology itself, which continues to have reasonably low success rates among many (particularly older) women. In the dozen or so 'real life stories' where a happy ending was not forthcoming in the form of a 'take-home' baby, responsibility was in all but two cases ascribed directly or implicitly to the failure of Government to fund subsequent IVF cycles, or to exclusive funding criteria, both of which were said to 'force' couples to 'abandon' their quest for a biological child, thus 'putting their dreams on hold' (The Dominion, 11 June 2002; The Press, 26 September 2002; The Dominion Post, 13 July 2004). Couched in this ascription of responsibility is an assumption that IVF will eventually lead to a successful outcome for all, so long as they keep trying -- a false and potentially dangerous

misrepresentation, but nonetheless a lucrative one for fertility service providers, since it may encourage wealthier couples to undertake numerous unsuccessful cycles at their own expense.<sup>9</sup>

Thus, news media frequently serves as a vehicle for consumers' calls for an increased share of public reproductive health funds, justified on the basis of lengthy waiting lists, growing market demand, and the presumption that everyone can eventually achieve a successful outcome. Ironically, the same statistics that expose IVF as a relatively unsuccessful treatment (per cycle) are at times mobilised to support the call to fund subsequent treatments, suggesting that while a concordance of interest exists between fertility specialists and consumers, these groups do retain separate interests of their own: 'Mrs Scott hoped the number of publicly funded in vitro fertilisation cycles would be raised from one to three -- one gave couples a 38 per cent chance of becoming parents, but three boosted their chances to 70 per cent' (The Dominion Post, 13 June 2002). The logic here is clear, as Van Dijck (1995) notes: since the chance of success increases with subsequent cycles, women should undergo repeat cycles to improve their odds, thereby confirming IVF as a 'successful' technology whilst neatly obscuring the number of treatment cycles that may be required to achieve the desired outcome. Thus, medical rhetoric, often expressed through gambling metaphors calculating the 'odds' of success, is 'deployed to authorize a political demand: government should help increase the effectiveness and efficiency of medical technology, and alleviate the financial burden of infertile couples' by footing the bill (Van Dijck, 1995: 122). The 'problem' of ART thereby becomes political, as opposed to medical or ethical.

Further, the dominant voices in the funding 'debate' are those of consumers and the national lobby group representing their interests -- Fertility New Zealand (FNZ). Significantly, nearly half the annual income of FNZ is derived from an Australasian IVF

Directors Group grant of \$16,764 -- a considerable investment (FNZ Financial Statement, 2004). Fertility providers, and most notably senior staff of Fertility Associates, are also intimately involved in FNZ as members of its executive committee, attending its annual conferences, and participating in its AGMs. For its part, FNZ very effectively agitates for public funding of three treatment cycles. If successful, benefits would accrue not only to the infertile, but also to Fertility Associates as holder of public contracts in several main centres, significantly increasing their clientele and providing a secure basis for further growth, expansion, and ultimately profits. That this questionable financial and executive relationship between New Zealand's largest service provider and a major lobby group has entirely escaped the attention of local media again reflects the concordance of interest between journalists, specialists, and consumers. Such concordance is also evident in extensive 'technoboosterism'.

### **Technoboosterism: Hying Up the Benefits of Technological Innovation**

In contrast to the findings of Van Dijck (1995), the articles in our sample do not articulate science discourse to any great extent. Technical details of procedures and descriptions of how research was done comprise less than 25 percent of total content in around 90 percent of the articles collected. Where it does occur is in articles relating to newer and less well understood procedures and techniques, such as human embryo cloning, stem cell research, and PGD. Thus, it appears New Zealand journalists have not followed the trend toward an increasing 'technologization' (Condit, 1994) of science reporting that occurred in some other countries during the 1990s, or perhaps do so to a lesser extent, preferring media frames that have greater appeal to readers.

Rather than technologisation, a more predominant media frame is that of ‘technoboosterism’ (Parrott and Condit, 1996: 8). That is to say, key sources, established news values and professional routines all encourage reporters to exhibit a pro-technology bias, leading them to emphasise the positive benefits of new scientific and biomedical developments, and to ‘overrate and overhype “high-tech” solutions’ (Ibid.).

Technoboosterish coverage typically represents medical and scientific research as progressive, beneficial, and as offering hope of imminent cures for the sick and afflicted. Often, purely hypothetical future benefits of emerging technologies and treatments are emphasised and celebrated as though they inevitably emerged from the unstoppable march of scientific progress (Van Dijck, 1995, 1998). Conversely, as Petersen (2001: 1263) notes, ‘potential disadvantages and dangers are either ignored or provide only a minor sub-theme’.

Frequently, professional journalistic values of balance and objectivity are set aside in favour of a heavy reliance on reproducing the largely unchallenged self-representations and commentary of medical and scientific ‘experts’ (see also Nelkin, 1987; Lewenstein, 1995; Nisbet and Lewenstein, 2002; Smart, 2003), possibly reflecting a lack of experience and scientific knowledge among local journalists (Lealand, 2004), who may not know whom to ask for independent confirmation or a divergent opinion (Friedman, 1986; Nelkin, 1987). Indeed, such is the authority conveyed to these ‘experts’ that independent confirmation is often regarded as unnecessary: as Nelkin (1987) suggests, journalists often regard science as ‘the ultimate authority’ (see also Karpf, 1988; Hansen, 1994, cited in Petersen, 2001). It is also common for a small number of positive research findings relating to the therapeutic uses of stem cells in particular to be highlighted and then extrapolated or ‘telescoped’ (Parrott and Condit, 1996) to hypothetically encompass potential treatments for the full range of chronic and genetic

disorders, with journalists frequently reiterating the unqualified declarative statements of a few cited experts.

Thus, the tone of much local reporting is favourable, and at times overwhelmingly so. Just over two thirds of the articles are strongly or predominantly favourable towards the particular technology(s) discussed, while just one sixth are predominantly or strongly negative; the rest appear mixed or neutral. Most of the negative stories relate to more contentious issues such as genetic selection, embryonic stem cell research, and xenotransplantation, and often emphasise the urgent need for regulation in these areas. More common are stories that appear to be framed by a discourse of ‘great promise’ (Kitzinger & Reilly, 1997: 322) and thus depict reproductive and genetic technologies as offering boundless hope to the infertile, or imminent cures for those afflicted with debilitating diseases. Often, experts are cited at length attesting to the ‘revolutionary’ nature of their own and others’ ‘groundbreaking’ or ‘cutting-edge’ work, described as having achieved a ‘massive breakthrough’ offering ‘incredible’ or ‘enormous’ benefits to ‘millions of people’ in terms of improving fertility treatment or preventing chronic diseases. For example, Australian scientist Professor Alan Trounson is cited proclaiming that ‘A revolutionary technique of making artificial eggs and sperm holds the key to eradicating infertility within 10 years,’ and ‘I’m certain that in the long term we’ll be able to help everybody’ (The New Zealand Herald, 30 July 2003; The Press, 2 September 2004). Other stories make glowing references to ‘disease-busting stem-cell work’, touted in some articles as potentially offering ‘a super cure’ or ‘miracle cure-all’ (Weekend Herald, 16--17 October 2004). In many of these articles, the nature and significance of stem cell research is related with breathless excitement:

The Holy Grail of medical science is all down to the discovery of the existence of stem cells.... Their possible uses are simply incredible. Damaged or diseased tissue...could be repaired or replaced with new tissue grown from master cells.... No need to worry about a lack of suitable organs or the risk of rejection -- just grow a replacement heart, liver, or kidney to slot straight in.... Children could be engineered for resistance to cancer, heart disease, mental illness, Aids and other human plagues. They could also be designed for superhuman strength, sunny disposition, flawless beauty or photographic memory. (Weekend Herald, 17--18 May 2003)

As this example suggests, a pervasive technoboosterism dominates local coverage of stem cell research, in some cases leading to inaccuracy, exclusion, and distortion. While considerable debate continues among scientists about the ethics, significance and likely benefits of human stem cell research, such internal discussion and debate is only rarely acknowledged. The voices of scientists opposed to embryo cloning for this purpose, or even of those who question the 'hype' surrounding therapeutic uses of stem cells given unpredictable results (including stem cells turning into tumours), are infrequently acknowledged and largely confined to just two feature articles, an opinion piece entitled 'Why Superman Is A Poor Saviour For Superhuman Research' (The New Zealand Herald, 27 February 2003), and a lengthy feature article headed 'Supercells Key To Regeneration' (Weekend Herald, 16--17 October 2004). Rather more commonly, stem cell therapies are represented as the inevitable next step in the unstoppable march of scientific progress and development, and as indisputably offering medical benefits and cures for all (see also Van Dijck, 1995; Petersen, 2001). Science, we are told, will eventually fix everything and has endless capacity to eradicate disease for the betterment

of human kind. As Professor Trounson predicts, 'It hasn't happened yet, but it will' (The New Zealand Herald, 30 July 2003).

This study thus confirms findings by Durant et al. (1996), Nelkin and Lindee (1998), Conrad (1999), Nelkin (2001), and Petersen (2001), who note that media personnel often uncritically reproduce claims made by specialists and scientists about the social value of their own work, and frequently fail to ask technical questions regarding the tangible benefits, safety, reliability and potential hazards of biogenetic medicine. Such uncritical acceptance reflects a taken-for-granted assumption that scientific knowledge is objective and disinterested, and thus that those conducting the research or offering a new biogenetic service can also legitimately evaluate its importance and potential significance. The failure of many journalists to acknowledge the social, political and economic contexts in which service provision and scientific research takes place means many are literally unable to perceive that the self-reporting of fertility specialists and scientists is often highly interested (see Nelkin, 1987; Weingart, 1998), and allows those sources considerable leeway to shape the agenda for how new developments are understood and debated in the public domain (Karpf, 1986; Nelkin, 1987) -- as clearly witnessed locally in the cases of PGD and cord banking (see Sullivan et al., 2005; Philp, 2005; and Michelle, 2006a for further discussion).

More problematically, given the commercialisation of reproductive and biogenetic medicine in New Zealand, the reliance on a few influential sources enables prominent specialists to utilise their close relationship with media personnel to fuel consumer demand for new and expensive, medically non-essential services from which they potentially profit professionally and financially (see also Condit, 1996). Several articles feature fertility specialists extolling the virtues of services they themselves have developed; including CordBank, the subject of a recent exposé (Philp, 2005), and more

recently egg freezing and Egg Check. These ‘news stories’ effectively offer private service providers a form of free ‘institutional advertising’ in the guise of news (Van Dijck, 1995). Significantly, two of these new services seem specifically primed to capitalise on the anxieties of ‘women who have put careers ahead of starting a family and are concerned their biological clock is ticking’ (The New Zealand Herald, 14 September 2004). But why get your eggs checked, when for a mere \$7,000 you could have them cryogenically preserved? (Weekend Herald, 5 August 2004). Having already sown the seeds of insecurity among career women by actively promoting the message that infertility is largely ‘caused’ by leaving motherhood too late (The New Zealand Herald, 22 April 2002; The New Zealand Herald, 4 November 2002), media actively promote the message that the fertility industry offers various solutions to women’s ‘self-inflicted’ problem. What is more, since women can never know if they have ‘good eggs’ or not, every woman over 30 becomes a potential customer for such services, so long as she can foot the bill.

### *Discursive Normalisation*

As privileged sources, specialists and researchers are able to utilise media to police the boundaries of ‘acceptable’ science and quell public anxieties about some scientists ‘going too far’. In the present study, this was most evident in media coverage of human therapeutic and reproductive cloning. As noted by Petersen (2001: 1265), Australian scientists made a concerted effort via news media during the late 1990s to ‘extol the medical virtues of cloning research, and emphasise the distinction between “therapeutic cloning” -- implicitly seen as “good”, useful, and legitimate -- and “reproductive cloning”

-- seen as “bad”, dangerous, or illegitimate’. In turn, editors and journalists echoed the same good/bad science distinction, reinforcing this boundary work and engaging in various discursive containment strategies.

Based on our sample, it appears similar processes are occurring locally. The cloning of human embryos, for instance, is described by one local editor as ‘a triumph of principled science’, whilst experiments in human reproductive cloning are dismissed as ‘irresponsible, unethical adventuring’ by a few ‘rogue scientists’, and an ‘affront to nature’ that ‘could scupper legitimate research’ (The New Zealand Herald, 2 January 2003). Claims of the birth of ‘Eve’, the first human clone, are similarly debunked and contained in extensive media coverage, and are explicitly rebutted by ‘legitimate’ scientists keen to preserve the positive public image of therapeutic cloning in the face of potential contamination by ‘wacko’ religious cults and scientific ‘mavericks’ (The New Zealand Herald, 15 January 2003). Indeed, the general tenor of much reporting on the cloning issue is one of concern about how such experiments might affect ‘legitimate’ research on therapeutic cloning (The New Zealand Herald, 13 January 2003).

Yet, surprisingly, local media coverage also reflected some effort to normalise human reproductive cloning by explicitly equating this process with the natural occurrence of embryo splitting or twinning in utero. The Dominion Post (25 May 2002), for example, explains that ‘Identical twins start as one entity after fertilisation, a single cell, which later divides into two cells, each of which grows into a human, each containing the same DNA. That’s what a clone is, by definition, whether created in a laboratory or conceived naturally’ (emphasis added). This discursive conflation is repeated in several articles (see, for example, The Dominion Post, 9 November 2002; The Evening Post, 25 May 2002), and relies on a reductive logic in which both processes are conceived solely in terms of the replication of DNA at the precise moment in which ‘one’

becomes ‘two’, thereby entirely ignoring the vastly different contexts in which such ‘twinning’ occurs, along with the purposes of DNA replication in reproductive cloning and the potential health, social and psychological implications for any cloned offspring. This conflation thus serves to obscure some extremely important distinctions; yet it appears with startling regularity. A Dominion Post feature entitled ‘Human Clones Talk About Their Lives’ (25 May 2002), for example, asserts that ‘While Governments worldwide speak out against human cloning, real-life examples abound -- we call them identical twins’, and cites (among others) the views of local comic performers, The Topp Twins, much loved by New Zealanders and stars of their own television series.

Importantly, the notion that twinning and cloning can be equated by reducing both processes to a single moment abstracted from any context derives, not solely from the imaginations of journalists, but from the discourse of scientists themselves, including Winston, who later warns against banning human reproductive cloning, since it is ‘impossible to do it’, but still feels the need to throw in an assurance, just in case: ‘But even if they did clone a human, you’d have to say so what? There are 2,500 human clones walking around in New Zealand right now. They’re called identical twins’ (The Press, 7 July 2004; emphasis added). Such problematic assurances may usefully help quell public anxieties and prevent a widespread backlash should the ‘impossible’ ever eventuate, while also offering assurances of the inherent benevolence of scientific investigation and the natural caution of ‘legitimate’ scientists like Winston. This kind of active management of public perception and response is vitally important for the conduct of science at a time when its goals and methods are being subjected to greater political scrutiny and official regulation than ever before -- as reflected in the Council of Europe Protocol to the Convention on Biomedicine and Human Rights banning human

reproductive cloning, and the US-backed Costa Rican proposal to ban all forms of human cloning, including therapeutic, via the UN, tabled in October 2004.

### **Concluding Remarks**

It appears local media do provide a forum in which specialists and scientists are able to effectively advocate in support of their work and services, with little interrogation of their claims, and in many cases with active support from journalists and consumer lobby groups. Critiques of the technologies and their potential uses or wider implications are in the vast majority of cases very limited, comprising less than 25 percent of the total content in 80 percent of the texts collected, if present at all.<sup>10</sup> Where such critiques or ‘counterdiscourses’ (Van Dijck, 1995: 20) are voiced, however, articles often devote considerable space to debunking such concerns and rearticulating the medico--scientific rationale justifying a new technology or controversial line of research. This is also noted by Priest (2001: 6), who observes that ‘other voices...may be reported to create the appearance of a “balanced” story, yet they are subtly positioned as representing fringe (if not lunatic) perspectives. They are included only to be delegitimized.’ The views of specialists and scientists are thus frequently mobilised in ways that effectively dismiss or marginalise objections as deeply conservative, misinformed, or politically interested. As Winston remarks, ‘Those set against reproductive technology tend to be a minority...who have strong views on the nature of the embryo generally and work on an ethical framework not shared by most people in Western society’ (The Press, 7 July 2004).

Thus, while New Zealand media is to some extent multi-vocal in the sense of articulating a limited selection of perspectives, the representational strategies adopted

more frequently serve to define and delimit the nature of public discussions, and to marginalise the voices of social, political, ethical and religious critique -- much more so than may be the case in other national contexts (see for example Einsiedel, 1992; Birenbaum-Carmeli et al., 2000; Smart, 2003). Extensive anecdotal personalisation privileges an individualised frame of reference that sidelines detailed consideration of the social and ethical implications of emerging technological developments, while also fuelling the ongoing politicisation of fertility service provision, which increasingly incorporates genetic technologies such as PGD. Local print media also offers predominantly positive representations of reproductive and biogenetic technologies, frequently echoing the voices of scientists and researchers themselves as they actively promote the value of their work, and with little interrogation of their technoboosterish claims, thereby facilitating the process of discursive normalisation of more controversial developments and emerging areas of research.

This pro-science and technology bias leads local media to be relatively uncritical of emerging developments in these areas. Fewer stories engage with the legal, social and ethical questions raised by emerging technologies, including the commodification of children, the psychological consequences of genetic selection, and the ethics of human cloning research. The potential long-term risks associated with cryopreservation of eggs and embryos, sperm injection, PGD, cloning and xenotransplantation are rarely acknowledged, or are dismissed as insignificant. Where the costs of IVF and its limited success rates are noted, this often occurs within the context of highly politicised calls for increased public funding. With few exceptions, in-depth interrogation of the goals, techniques and potential social implications of reproductive and genetic technologies remains muted. Little space is devoted to critical evaluation of whose interests are at stake in the development and growing commercialisation of reproductive and genetic

technologies, in calls for increased public funding or the provision of a new service, and in the pursuit of particular lines of research (see also Van Dijck, 1995).

These tendencies within local media reflect the concordance of interest that exists between media personnel, scientists and specialists, and consumer groups. As Condit (1994) notes, while each of these groups retains separate interests of their own and none is internally homogeneous, any major differences are offset by a stronger and more immediate mutual interest in the positive representation of reproductive and biogenetic technologies. Consumers have an interest in telling their stories to journalists, as doing so helps build public support for their cause of increasing public funding and securing the provision of services not yet available here. The often heart-wrenching stories they tell make for great newspaper copy: hence the predominant use of anecdotal personalisation as a media frame. Fertility specialists and scientists need to emphasise the positive social and medical value of their work to gain public acceptance, funding, and in the New Zealand case, legislative and ethical approval of new procedures or lines of research. Stories about how a given procedure or research project may help desperate couples realise their parental aspirations (or put an end to debilitating diseases) foster public enthusiasm and reassure funding agencies and legislators of the potential benefits of supporting their work. For their part, magazine and newspaper editors and owners seek increased market share, and both kinds of stories -- 'real life' human interest stories and 'pioneering quests' -- make for compelling reading. Such stories are highly newsworthy; they help sell papers and magazines. Thus, all three groups have immediate and direct interests at stake, and all have something to gain (Condit, 1994).

The representational strategies adopted by media in framing issues around reproductive and biogenetic technologies thus 'speak' to the interests of all three groups, and are to some extent mutually reinforcing. As the lynchpins in this symbiotic triad or

concordance, journalists adopt representational frames of anecdotal personalisation and technoboosterism, which in turn facilitate the politicisation and discursive normalisation of current and emerging treatments and technologies. While audience reception was not the object of investigation here, these media frames potentially aid in manufacturing consent to new biomedical and scientific developments by defining and delimiting their public representation. In the process, most media marginalises serious critical discussion of the nature, intent, and potential implications of such developments and the economic and political interests at stake. The predominance of these media frames thus militates against full and balanced discussion of the wider societal implications, social value and potential risks of ART, PGD, stem cell research, and cloning, instead constructing emerging reproductive and genetic technologies as the products of a generally benevolent scientific establishment and as offering significant future benefits for individual consumers, and by extension, society as a whole. In this respect, New Zealand media serves as a crucial nexus in the articulation of medical, scientific and consumer discourses and potentially also as a key site for forging public acceptance of emerging and deeply controversial developments in reproductive and biogenetic medicine.

**Notes:**

<sup>1</sup> The title of this paper is taken from a Dominion Post feature article entitled 'Human Clones Talk About Their Lives' (25 May 2002).

<sup>2</sup> A popular misnomer; Louise Brown was actually conceived in a petri dish.

<sup>3</sup> Concerns about the latter were compounded in May 2002 when Italian reproductive specialist Severino Antinori announced the successful implantation of several cloned embryos, sparking outrage among the international scientific community. Within months, these claims were followed by (unsubstantiated) proclamations by the Raelians (an alien-worshipping religious cult) of the birth of 'Eve', supposedly the first human clone.

<sup>4</sup> The Act also makes mandatory the recording of information about sperm, egg and embryo donors, recipients and offspring, and makes it possible for offspring to discover the identity of their donor parent(s) at age 18.

<sup>5</sup> Regular national surveys of New Zealand journalists suggest a feminised and comparatively youthful local workforce (Lealand 1998, 2004). While 60 per cent of local journalists have completed a university degree, most degrees were in the arts or social sciences, and only seven percent of these were Masters degrees (Lealand, 2004). The dwindling number of senior journalists has sparked concerns about declining skill levels and journalistic standards, loss of institutional memory, and a lack of critical acumen within the profession as a whole (Ibid.).

<sup>6</sup> While a 'preferred' reception cannot be guaranteed, since readers may be able to draw on other sources of knowledge such as personal experience and professional expertise, the specialised nature of recent medical and scientific developments means

most people will lack useful alternative sources of information. Hence, the media is likely to exert a major influence on public understandings in this area.

<sup>7</sup> Since many of these articles include details of how to contact the service providers or researchers, along with information about individuals using the service or participating in (presumably confidential) drug trials, they are likely to be the result of approaches made to media by the researchers and clinics themselves. This is clearly the case with CordBank, promoters of which appear to have issued tailored press releases to numerous regional newspapers. Without exception, the published articles included a compelling personal story featuring a satisfied customer from each locality, suggesting that the contact details of these customers were also issued to journalists (see Michelle, 2006a).

<sup>8</sup> See for example Waikato Times, 15 June 2002; The Press, 26 September 2002; The Dominion, 11 June 2002; The New Zealand Herald, 6 September 2004; The Dominion Post, 7 September 2004 and 11 November 2004.

<sup>9</sup> In my personal communications with fertility counsellors and specialists, I have heard of couples undergoing as many as 13 IVF cycles; only one or two of which are likely to have been publicly funded.

<sup>10</sup> The most commonly articulated objections are moral or religious in nature, and are raised by the Catholic Church, other Church groups, 'pro-lifers', the New Zealand Inter-Church Bioethics Council, and to a lesser extent ethicists and disabled groups. Most objections concern the use of PGD for purposes of genetic selection, embryo research, and xenotransplantation or gene mixing (see for example The Dominion Post, 27 August 2004 and 25 November 2004; The Press, 24 November 2004).

## References:

- Anderson, A. (2002) 'In Search of the Holy Grail: Media Discourse and the New Human Genetics', *New Genetics and Society* 21(3): 327--337.
- Balakrishnan, R. (1994) 'The Social Context of Sex Selection and the Politics of Abortion in India' pp. 267--286 in G. Sen and R. Snow (eds) *Power and Decision: The Social Control of Reproduction*. Boston, Massachusetts: Harvard Center for Population and Development Studies.
- Batty, L. P. (2002) *Assisted Reproductive Technology: The Aotearoa/New Zealand Policy Context*. Unpublished Master of Arts Thesis, University of Canterbury, New Zealand.
- Bauer, M. (1998) 'The Medicalization of Science News -- From the "Rocket-Scalpel" to the "Gene-Meteorite Complex"', *Social Science Information* 37(4): 731--751.
- Bell, A. (1995) "'An Endangered Species": Local Programming in the New Zealand Television Market', *Media, Culture & Society* 17(2): 181--200.
- Betterton, R. (2002) 'Prima Gravida: Reconfiguring the Maternal Body in Visual Representation', *Feminist Theory* 3(3): 255--270.
- Birenbaum-Carmeli, D., Y. S. Carmeli, and R. Cohen (2000) 'Our First "IVF Baby": Israel and Canada's Press Coverage of Procreative Technology', *The International Journal of Sociology and Social Policy* 20(7): 1--39.
- Bunkle, P. (1988) 'Manufacturing Motherhood' pp. 92--101 in *Second Opinion: The Politics of Women's Health in New Zealand*. Auckland: Oxford University Press.
- Condit, C. M. (1994) 'Hegemony in a Mass-Mediated Society: Concordance About Reproductive Technologies', *Critical Studies in Mass Communication* 11(3): 205--230.

- Condit, C. M. (1996) 'Media Bias for Reproductive Technologies' pp. 341--355 in R. L. Parrott and C. M. Condit (eds) *Evaluating Women's Health Messages*. Thousand Oaks/ New York: Sage.
- Coney, S. and A. Else (eds) (1999) *Protecting our Future: The Case for Greater Regulation of Assisted Reproductive Technology: A Discussion Document*. Auckland: Women's Health Action Trust.
- Conrad, P. (1997) 'Public Eyes and Private Genes: Historical Frames, News Constructions, and Social Problems', *Social Problems* 44(2): 139--154.
- Conrad, P. (1999) 'Use of Expertise: Sources, Quotes, and Voice in the Reporting of Genetics in the News', *Public Understanding of Science* 8(4): 285--302.
- Corner, J., K. Richardson and N. Fenton (1990) 'Textualising Risk: TV Discourse and the Issue of Nuclear Energy', *Media, Culture & Society* 12 (1): 105--124.
- Daniels, K. R. (1988) 'Attitudes to Artificial Insemination by Donor and In Vitro Fertilisation -- a Community Perspective', *New Zealand Social Work Review* 1(1): 4--10.
- Dunwoody, S. (1986) 'The Scientist as Source' pp. 3--15 in S. M. Friedman, S. Dunwoody and C. Rogers (eds) *Scientists and Journalists: Reporting Science as News*. New York: The Free Press.
- Durant, J., A. Hansen and M. Bauer (1996) 'Public Understanding of the New Genetics' pp. 235--248 in T. Marteau and M. Richards (eds) *The Troubled Helix: The Social and Psychological Implications of the New Human Genetics*. Cambridge: Cambridge University Press.
- Einsiedel, E. (1992) 'Framing Science and Technology in the Canadian Press', *Public Understanding of Science* 1(1): 89--101.

- Foucault, M. (1971) 'The Order of Discourse' pp. 221--233 in P. Rice and P. Waugh (eds.) (1989) *Modern Literary Theory: A Reader*. London: Edward Arnold.
- Franklin, S. (1990). 'Deconstructing 'Desperateness': The Social Construction of Infertility in Popular Representations of New Reproductive Technologies' pp. 200--229 in M. McNeil, I. Varcoe, & S. Yearley (eds) *The New Reproductive Technologies*. London: MacMillan.
- Friedman, S. M. (1986) 'The Journalist's World' pp. 17--41 in S. M. Friedman, S. Dunwoody, and C. Rogers (eds) (1986) *Scientists and Journalists: Reporting Science as News*. New York: The Free Press.
- Gitlin, T. (1980) *The Whole World is Watching*. Berkeley: University of California Press.
- Hamilton, S. N. (2003) 'Traces of the Future: Biotechnology, Science Fiction, and the Media', *Science Fiction Studies* 30(2): 267--280.
- Hudson, V. M. and A. M. den Boer (2004) *Bare Branches: Security Implications of Asia's Surplus Male Population*. Massachusetts: MIT Press.
- Huxford, J. (2000) 'Framing the Future: Science Fiction Frames and the Press Coverage of Cloning', *Continuum: Journal of Media & Cultural Studies* 14(2): 187--199.
- Karpf, A. (1988) *Doctoring the Media: The Reporting of Health and Medicine*. London: Routledge.
- Kitzinger, J. and J. Reilly (1997) 'The Rise and Fall of Risk Reporting: Media Coverage of Human Genetics Research, "False Memory Syndrome" and "Mad Cow Disease"', *European Journal of Communication* 12(3): 319--350.

- Lealand, G. (1998) 'Journalists in New Zealand' pp. 109--124 in D. H. Weaver (ed.) *The Global Journalist: News People Around the World*. Cresskill, New Jersey: Hampton Press.
- Lealand, G. (2004) 'Still Young and Female: A (Modest) Survey of New Zealand Journalists', *Pacific Journalism Review* 10(2): 173--196.
- Lewenstein, B. V. (1995) 'Science and the Media' pp. 343--360 in S. Jasanoff, G.E. Markle, J.C. Petersen, and T. Pinch (eds) *Handbook of Science and Technology Studies*. Thousand Oaks: Sage.
- Michelle, C. (2006a) Media(ted) Fabrications: How the Science--Media Symbiosis Helped "Sell" Cord Banking', *Communication & Medicine* 3(1): 55--68.
- Michelle, C. (2006b) 'Transgressive Technologies? Strategies of Discursive Containment in the Representation and Regulation of Assisted Reproductive Technologies in Aotearoa/New Zealand', *Women's Studies International Forum* 29(2): ??--??.
- Nelkin, D. (1987) *Selling Science: How the Press Covers Science and Technology*. New York and Oxford: W.H Freeman and Company.
- Nelkin, D. (1996) 'An Uneasy Relationship: The Tension Between Medicine and the Media', *Lancet* 347: 1600--1603.
- Nelkin, D. (2001) 'Beyond Risk: Reporting About Genetics in the Post-Asilomar Press', *Biology and Medicine* 44(2): 199--207.
- Nelkin, D. and S. Lindee (1998) 'Media Portrayals of Genetics', *American Journal of Human Genetics* 63(2): 662--663.
- Nerlich, B., R. Dingwall and D. Clarke (2002) 'The Book of Life: How the Human Genome Project was Revealed to the Public', *Health* 6(5): 445--469.

- Nisbet, M. and B. Lewenstein (2002) 'Biotechnology and The American Media: The Policy Process and the Elite Press, 1970--1999', *Science Communication* 23(4) 359--391.
- Nisbet, M., D. Brossard and A. Kroepsch (2003) 'Framing Science: The Stem Cell Controversy in an Age of Press/Politics', *Press/Politics* 8(2): 36--70.
- New Zealand Law Reform Division (1986) *New Birth Technologies: A Summary of Submissions Received on the Issues Paper*. Wellington: Law Reform Division, Department of Justice.
- Oomman, N. and B. R. Ganatra (2002) 'Sex Selection: The Systematic Elimination of Girls', *Reproductive Health Matters* 10(19): 184--188.
- Parrott, R. L. and C. M. Condit (1996) 'Priorities and Agendas in Communicating About Women's Reproductive Health' pp. 1--11 in R. L. Parrott and C. M. Condit (eds) *Evaluating Women's Health Messages*. Thousand Oaks/ New York: Sage.
- Petersen, A. (2001) 'Biofantasies: Genetics and Medicine in the Print News Media', *Social Science & Medicine* 52(8): 1255--1268.
- Philo, G. (1990) *Seeing and Believing: The Influence of Television*. London and New York: Routledge.
- Philo, G. (1993) 'Getting the Message: Audience Research in the Glasgow University Media Group' pp. 253--270 in J. Eldridge (ed) *Getting the Message: News, Truth and Power*. London and New York: Routledge.
- Philp, M. (February 2005) 'Cold Comfort Farm', *Metro* 47--53.
- Priest, S. H. (2001) *A Grain of Truth: The Media, the Public and Biotechnology*. Lanham, MD: Rowman and Littlefield.

- Rapp, R. (1988) 'Chromosomes and Communication: The Discourse of Genetic Counselling', *Medical Anthropology Quarterly* 2(2): 109--129.
- Seguin, E. (2001) 'Narration and Legitimation: The Case of In Vitro Fertilization', *Discourse & Society* 12(2): 195--215.
- Smart, A. (2003) 'Reporting the Dawn of the Post-Genomic Era: Who Wants to Live Forever?', *Sociology of Health & Illness* 25(1): 24--49.
- Stone, J. L. (1991) 'Contextualising Biogenetic and Reproductive Technologies', *Critical Studies in Mass Communication* 8(3), 309--332.
- Sullivan, M., P. Brownlett and N. Patton (2005) 'Private Umbilical Cord Blood Banking: A Biological Insurance of Dubious Future Benefit!', *The New Zealand Medical Journal* 118(1208). Retrieved 28 February 2005, from <http://www.nzma.org.nz/journal/118--1208/1260>.
- Underwood, D. (2001) 'Reporting and the Push for Market-Oriented Journalism: Media Organizations as Businesses' pp. 99--117 in W. L. Bennett and R. M. Entman (eds) *Mediated Politics: Communication in the Future of Democracy*. Cambridge, UK and New York: Cambridge University Press.
- Van Dijck, J. (1995) *Manufacturing Babies and Public Consent: Debating the New Reproductive Technologies*. New York: New York University Press.
- Van Dijck, J. (1998) *Imagination: Popular Images of Genetics*. New York: New York University Press.
- Väliverronen, E. (2004) 'Stories of the "Medicine Cow": Representations of Future Promises in Media Discourse', *Public Understanding of Science* 13(4): 363--377.
- Weingart, P. (1998) 'Science and the Media', *Research Policy* 27: 869--879.

Zehr, S. C. (1999) 'Scientists' Representations of Uncertainty' pp. 3--21 in S. M. Friedman, S. Dunwoody and C. L. Rogers (eds) *Communicating Uncertainty: Media Coverage of New and Controversial Science*. London: Lawrence Erlbaum Associates.